

REMARKS

Status of the Claims

Claims 8-9, 18, 29-30, 39, 50-51 and 60 were previously cancelled without prejudice or disclaimer. Claims 1-3 and 24-25 have been amended to more particularly point out the composition of the biological sample. The independent claims have been amended to positively recite a salt concentration for the hypertonic high salt reagent. Claims 16, 37 and 58 have been amended in formal regards to clarify that the detergent is based on the volume of the lysis reagent. New claims 66-70 have been added also directed to further specific embodiments of the biological sample. Support for the instant claim amendments and new claims can be found throughout the specification and claims as originally filed, for example, on pages 8, 9 and 15 of the specification, as well as in the original claims. No new matter has been added. Entry of the amendment and favorable reconsideration are earnestly solicited.

Claims 1-7, 10-17, 19-28, 31-38, 40-49, 52-59 and 61-70 are pending in the present application.

Declaration of Dr. Loeffert

Submitted herewith is a Declaration of Dr. Dirk Loeffert which provides further evidence of the patentability of the instant claims.

The Interview

Applicants graciously acknowledge the courtesies extended to their Representatives during a personal interview conducted on July 20, 2009. The content of the interview is accurately reflected on the Interview Summary Record.

Claim Rejections

On pages 4-10 of the Action, claims 1-7, 10-17, 19-28, 31-38, 40-49, 52-59 and 61-65 under 35 USC 112, first paragraph on three bases, 1) for allegedly failing to meet the “best mode” requirements, 2) for allegedly failing to comply with the written description requirement, and 3) for allegedly failing to comply with the enablement requirement.

These rejections are respectfully traversed for at least the following reasons.

REJECTION BASED ON BEST MODE

It is respectfully submitted that the best mode contemplated for the hypertonic high salt reagent has been disclosed by the Applicants on pages 10-12 and in the Examples. Indeed pursuant to MPEP 2165.03 Requirements for Rejection for Lack of Best Mode, the MPEP states in all capital letters: “ASSUME BEST MODE IS DISCLOSED UNLESS THERE IS EVIDENCE TO THE CONTRARY.” Here, not only is there no evidence to the contrary, the instant Declaration by Dr. Loeffert at paragraph 8 states as follows:

“I can confirm that the PUREGENE solution functions as used in the examples of the present application by virtue of the fact that PUREGENE is a hypertonic high salt solution of greater than 1.0M. I further can confirm that there is no other ingredient in PUREGENE that makes it function other than its concentration of salt.”

The MPEP requires that an examiner should assume that the best mode is disclosed in the application, unless evidence is presented that is inconsistent with that assumption. It is extremely rare that a best mode rejection properly would be made in ex parte prosecution. As clearly stated in the MPEP, information that is necessary to form the basis for a rejection based on the failure to set forth the best mode is rarely accessible to the examiner, but is generally uncovered during discovery procedures in interference, litigation, or other inter partes proceedings. Here, not only is there simply no evidence of concealment, indeed, there is confirmation that the best mode has, in fact, been provided in Dr. Loeffert’s Declaration. See ¶8 of Dr. Loeffert’s Declaration.

According to the approach used by the court in *Chemcast Corp. v. Arco Industries*¹, 913 F.2d 923, 16 USPQ2d 1033 (Fed. Cir. 1990), a proper best mode analysis requires a determination of whether, at the time the application was filed, the inventor knew of a mode of practicing the claimed invention that the inventor considered to be better than any other. The first component is a subjective inquiry because it focuses on the inventor's state of mind at the time the application was filed. If there is evidence that inventor considered one mode to be better than others, then the Examiner must compare what was known with what was disclosed

¹ See also *Glaxo, Inc. v. Novopharm LTD.*, 52 F.3d 1043, 1050 (Fed. Cir. 1995), stating (The sole purpose of the best mode requirement is to restrain inventors from applying for patents while at the same time concealing from the public preferred embodiments of their inventions which they have in fact conceived. The best mode inquiry focuses on the inventor’s state of mind at the time he filed his application, raising a subjective factual question. *Chemcast*, 913 F.2d at 926, 16 USPQ2d at 1035. The specificity of disclosure required to comply with the best mode requirement must be determined by the knowledge of facts within the possession of the inventor at the time of filing the application.)

and make a determination if the disclosure adequate to enable one skilled in the art to practice the best mode. Unless the examiner has evidence that the inventors had information in their possession (1) at the time the application was filed, (2) that a mode was considered to be better than any others by the inventors, there is no reason to address the second component and there is no proper basis for a best mode rejection. If the facts satisfy the first component, then, and only then, is the following second component analyzed.

For all these reasons, a best mode rejection is simply misplaced and should be withdrawn.

REJECTION BASED ON WRITTEN DESCRIPTION AND ENABLEMENT

As to the written description and enablement rejections also based on 35 USC 112, first paragraph, it is respectfully submitted that all aspects of 112, first paragraph are met. Indeed, the specification makes reference to many different biological sample types, for example, on pages 8, 9 and 15. Thus the written description rejection is thus improper and should be withdrawn; there is no basis for a contention that the claim language is not found in the specification as filed. Withdrawal of the rejection and favorable reconsideration are earnestly solicited.

As to enablement, Dr. Loeffert's Declaration makes reference to many different biological sample types that could be treated according to the claimed method. Thus, the mere fact that only blood is exemplified is of no moment viz enablement. The Examiner has the initial burden of establishing a *prima facie* case when making an enablement rejection and here, such a burden has not been met. (See, e.g., MPEP §§ 706.03, 2164.04). To wit, Dr. Loeffert has provided a clear indication ¶ 9 of his Declaration that the claimed method would work in multiple cell types exactly as claimed. Undue experimentation would not be needed. See ¶¶ 9 and 10 of Dr. Loeffert's Declaration. See also ¶ 7 of Dr. Loeffert's Declaration where he explains that the claimed method would work in various cell types because it is assumed that the claimed method involves partial or complete denaturation of cell surface proteins in the presence of high salt, thereby easing the breakage of tight cell contacts providing a better starting situation for efficient cell lysis. Dr. Loeffert further states in ¶ 9 that, "[i]t is my opinion as one of ordinary skill in the art, that one would be able to utilize a process involving the steps I have enumerated in ¶¶ 4 and 5 above with many different biological samples without undue experimentation. That

is, some of the sample types this process could easily be used to purify include eukaryotic cells, a physiological fluid, and/or an animal tissue.”

Moreover and very importantly, in ¶6 of his Declaration, Dr. Loeffert mentions that the European Patent Office has also granted patent claims of similar scope without any indication that undue experimentation would be required. This is quite relevant especially in view of the PTO’s recently announced plans to streamline patent prosecution with the EPO. See the USPTO’s press release dated April 28, 2008 which states in relevant part,

“Under the Patent Prosecution Highway, an applicant whose application filed with either the EPO or the USPTO contains at least one allowable claim may request that the other office fast track the examination of corresponding claims in corresponding applications. Full requirements for participation in the trial program will be available prior to implementation at www.uspto.gov/web/patents/pph/pph_epo.html and www.epo.org.”

For all the reasons elaborated above and since the Examiner has provided no evidence whatsoever that one of skill in the art would have to engage in undue experimentation in order to conduct the claimed method on multiple biological sample types, the rejection based on enablement is improper and should be withdrawn.

REJECTION BASED ON INDEFINITENESS

The claims were rejected based on certain terms not having antecedent basis. It is respectfully submitted that antecedent basis is now provided in the amended claims. The claims were also rejected alleging that the use of the qualifier “amount effective” is indefinite. Applicants respectfully submit that this language as used in the instant claims is well understood by one of skill in the art. Indeed, one of skill in the art would know how much hypertonic, high salt reagent to add in order to precipitate proteins out of the lysate. Dr. Loeffert has stated at ¶10 of his Declaration that, “[i]t is further my opinion as one of ordinary skill in the art that obtaining a suitable hypertonic, high salt reagent that comprises salt in an amount effective to precipitate proteins out of the lysate would be something that one of skill could do without undue experimentation. This would be rather simple for a skilled person.”

For all these reasons, it is respectfully submitted that the rejection based on 112, second paragraph is therefore improper and should be withdrawn.

REJECTIONS BASED ON LAITINEN AND/OR FAIRMAN, TAKEN OPTIONALLY
WITH FURTHER DOCUMENTS

On pages 13-18 of the Action, the claims stand variously rejected based on either Laitinen or Fairman under 35 USC 103, optionally taken with other documents. These rejections are respectfully traversed for at least the following reasons.

Namely, neither of the primary references Laitinen nor Fairman teaches to add a hypertonic high salt reagent and then lyse the resultant. Furthermore, none of the secondary references provides for this deficiency of the two primary references. Indeed, under the *KSR* standard, the Loeffert Declaration provides concrete evidence that one of skill in the art simply would not have thought to reverse the steps taught by the prior art. In fact, the Loeffert Declaration provides evidence that one of skill in the art would have expected the claimed invention would not work given what he knew at the time the instant application was filed. Namely, in ¶3 of the Declaration, Dr. Loeffert states that an important advantage of a method of the present application is the fact that the biological material is contacted FIRST with a hypertonic high salt reagent to form a suspension and THEN that suspension is lysed. Dr. Loeffert then makes the specific statement, *"This is completely the opposite of what is done in the cited prior art. Indeed, I was completely surprised that by reversing the order of these steps in the cited prior art, such an unexpected benefit of improved resuspension of cells and a therefore better accessibility of cells for lysis could be obtained.* (emphasis supplied). In ¶4 and 5 of his Declaration, Dr. Loeffert compares Fairman and Laitinen with the claimed method steps and he shows that neither of these references teaches the claimed order of steps. In ¶7. Dr. Loeffert summarizes his findings stating as follows:

The fact that a method of the present application has much superior results by reversing the steps of the prior art *was completely unexpected to me* because a main purpose of using a high salt solution is the precipitation of proteins following the lysis step. These surprising and superior results are, in my opinion, most likely explained by partial or complete denaturation of cell surface proteins in the presence of high salt, thereby easing the breakage of tight cell contacts providing a better starting situation for efficient cell lysis. I would not have expected this phenomenon before. Indeed, neither Laitinen nor Fairman gave any hint that these steps should be (or for that matter even could have been) reversed because protein precipitation for purification of nucleic acids is logically only required once the cells are opened up following a lysis step. *To me, as one of skill in the art, I would not have expected the method of the present application to work very well because quite commonly rather hypotonic lysis*

solutions are used. The fact that the steps are done in the order of first treating with a hypertonic, high salt reagent and to form a suspension and then lysing is critical.
(emphasis supplied)

Further, as mentioned *supra* the fact that the EPO has granted claims similar in scope to those sought in the present application is relevant. See ¶16 of the Loeffert Declaration.

In view of the present claim amendments and the concurrently submitted evidence provided by Dr. Loeffert's Declaration, the rejections based on 103 are untenable and should be withdrawn.

CONCLUSION

Applicants believe that in view of the the present amendment, the instantly submitted Declaration and the foregoing remarks, this application is in condition for allowance and such action is respectfully requested. If issues may be resolved through Examiner's Amendment, or clarified in any manner, a call to the undersigned attorney is invited at an early date.

Commissioner is authorized to charge any deficiencies or credit any overpayment to Deposit Account No. 50-4254, referencing Attorney Docket No. 2902162-017000 for any additional fees deemed necessary.

Dated: August 26, 2009

Respectfully submitted,

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